IN THE CLAIMS

The following is a listing of the claims in accordance with 37 C.F.R. §1.121:

1. (original) A conversion device for use in an imaging system comprising:

a first perforated plate portion forming a plurality of collimator channels separated by a plurality of thin collimator walls;

a second perforated plate portion forming a plurality of scintillator channels separated by a plurality of thin scintillator walls;

reflective coating applied to the inside scintillator surface of said plurality of thin scintillator walls; and

a scintillator material filling said plurality of scintillator channels.

2. (original) A conversion device for use in an imaging system as in claim 1 wherein said first perforated plate portion and said second perforated plate portion are formed from a single perforated plate element.

3. (original) A conversion device for use in an imaging system as in claim 1 wherein said collimator channels comprise a spacing pitch of less than or equal to 2mm.

4. (original) A conversion device for use in an imaging system as in claim 1 wherein said collimator channels comprise a collimator channel width less than 500 microns.

5. (original) A conversion device for use in an imaging system as in claim 1 wherein said then collimator walls comprise a wall thickness of 100 microns.

6. (original) A conversion device for use in an imaging system as in claim 1 wherein said scintillator material comprises luminescent glass.

7. (original) A conversion device for use in an imaging system as in claim 6 wherein said luminescent glass comprises luminescent materials dispersed in a glassy matrix.

8. (original) A conversion device for use in an imaging system as in claim 6 wherein said luminescent glass comprises a glass ceramic containing crystalline particles.

9. (original) A conversion device for use in an imaging system as in claim 1 wherein said scintillator material comprises luminescent polymer.

10. (original) A conversion device for use in an imaging system as in claim 9 wherein said luminescent polymer comprises inorganic phosphor particles suspended in a polymer matrix.

11. (original) A conversion device for use in an imaging system as in claim 1 wherein said plurality of thin collimator walls is comprised of a high atomic number metal.

12. (original) A conversion device for use in an imaging system as in claim 1 wherein said first perforated plate portion comprises a perforated copper plate.

13. (original) A conversion device for use in an imaging system as in claim 1 wherein said reflective coating comprises TiO2.

14. (original) A conversion device for use in an imaging system as in claim 1 wherein said scintillator material comprises a luminescent material that does not decompose when dispersed in molten glass, said luminescent material suspended in said molten glass.

15. (original) A conversion device for use in an imaging system comprising:

a perforated plate forming a plurality of scintillator channels separated by a plurality of thin scintillator walls;

reflective coating applied to the inside scintillator surface of said plurality of thin scintillator walls; and

a scintillator material filling said plurality of scintillator channels.

16. (original) A method of manufacturing a conversion device for use in an imaging system comprising:

perforating a plate element to form a plurality of scintillator channels separated by a plurality of thin scintillator walls;

coating an inside surface of said plurality of thin scintillator walls with a reflective coating; and

filling said plurality of scintillator channels with a scintillator material.

17. (original) A method of manufacturing a conversion device for use in an imaging system as described in claim 16, wherein said filling said plurality of scintillator channels comprises:

placing a scintillator material on said performated plate element;

applying a load to said scintillator material such that said scintillator material is pressed onto said perforated plate element;

heating said scintillator material to a slumping temperature such that said scintillator material fills said plurality of scintillator channels.

18. (original) A method of manufacturing a conversion device for use in an imaging system as described in claim 16, further comprising:

grinding said scintillator material such that a scintillator upper surface is planar with a perforated plate upper surface.

19. (original) A method of manufacturing a conversion device for use in an imaging system as described in claim 18, further comprising:

grinding said perforated plate upper surface such that a perforated plate depth is adjusted.

20. (original) A method of manufacturing a conversion device for use in an imaging system as described in claim 16, wherein said filling said plurality of scintillator channels comprises:

forming a block of scintillator material with said performated plate element embedded within said block of scintillator material; and

grinding said scintillator material such that a scintillator upper surface is planar with a perforated plate upper surface.

21. (original) A method of manufacturing a conversion device for use in an imaging system as described in claim 16, wherein said scintillator material only partially fills said perforated plate element such that a scintillator function is generated by said scintillator material and a collimator function is generated by an unfilled portion.